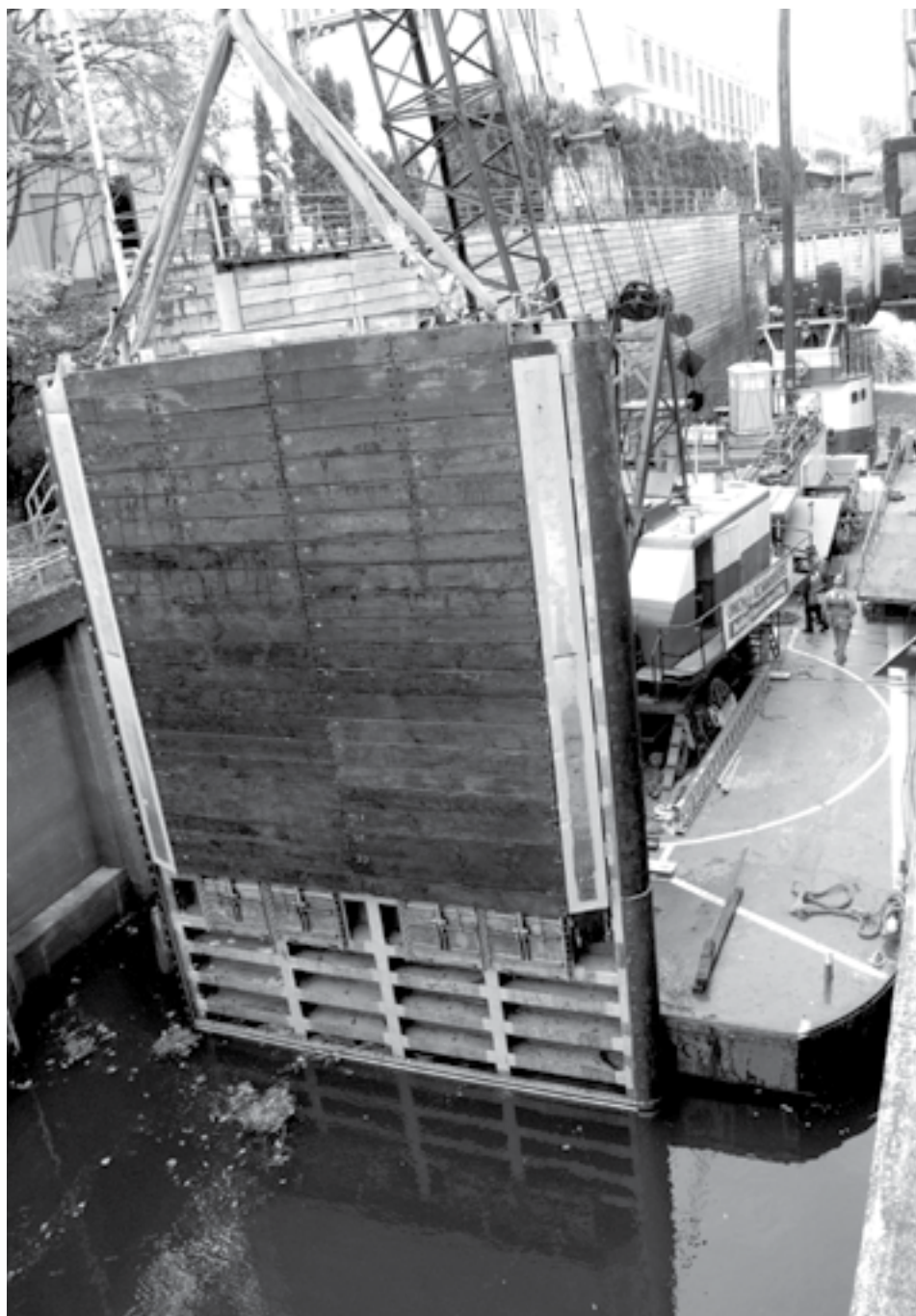




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The Willamette Falls Locks is undergoing a Hydraulic Steel and Structure inspection, an extensive assessment designed to ensure the structural integrity of the locks.
Photo by Diana Fredlund, Public Affairs Office.





A decade of pride in the new millennium

COMMANDER'S COLUMN

"The first decade of the new millennium." Sounds pretty impressive, doesn't it? Well, I think what Portland District and our partners have accomplished in those 10 years is pretty impressive, too.

In fact, many years from now when we look back on all that we've achieved this decade, we may remember it as a key time for the District—a time when we really took our game to the next level and our achievements from good to great.

For starters, in 2010 we will complete the first major rehabilitation of an entire Corps powerhouse. All 10 turbines and generators in Bonneville Dam's Powerhouse 1 will be completely rehabilitated, moving a Depression-era facility into the 21st century.

This project will increase the efficiency of each unit and of the powerhouse as a whole, and make the turbines so much safer for fish that we'll take the screens off the intakes, deliberately allowing the fish to pass through the turbines rather than detour around the dam. These improvements will make significant contributions to both the economy and environment of the Pacific Northwest.

Another major long-term project that we will complete in 2010 is the Columbia River Channel Improvement Project. By deepening the commercial navigation channel from Astoria to Portland, we're allowing cargo ships to transport more goods to and from the Pacific Northwest faster, easier and cheaper. This will help ensure the commercial viability of the Columbia River ports for many years to come.

Finally, after a sustained effort our Columbia River Fish Mitigation plans seem poised in 2010 to gain broad acceptance from the administration, courts and scientific community,



Col. Steven R. Miles, P.E.

allowing us to continue implementing projects that permit the Columbia River system to meet all of its Congressionally-authorized purposes while providing peak fish passage performance.

A specific example, also due for completion in 2010, is The Dalles Spillwall Project, which will bump one of our lowest-performing projects in terms of juvenile salmonid survival up to near the head of the class.

In each of these cases, we've overcome significant obstacles to get these projects designed, approved and executed, reinforcing our reputation as a district that can be relied upon to do what we say we'll do.

We have so much to be proud of as we look back on all we've accomplished in the first decade of the new millennium. I look forward to building on those and the many other successes we've achieved as we move forward into the next decade. 🇺🇸

Building STRONG – Essayons!



Conservation Leadership Award bestowed on district team



DISTRICT AWARD


By Amy Echols, Public Affairs Office

Portland District received The Nature Conservancy's Community Partner Conservation Leadership Award from the Conservancy's Oregon office at an awards luncheon Oct. 29. The award honors the Corps' contributions to preserving Oregon's critical fish and wildlife habitat.

Over the past four years, Conservancy staff has worked with a Portland District team to implement ecologically sustainable water management practices in the Middle Fork Willamette River downstream of Dexter and Fall Creek dams.

These practices, which include monitoring and assessing the ecological changes caused by water releases from Corps dams as part of flood damage reduction operations, are improving the environmental health of the river basin's system.

"Oregon is rich in its diversity of habitats for fish and wildlife, and we're honoring the exceptional leadership of those who are helping to keep it that way," said Russell Hoeflich, vice president and Oregon director of The Nature Conservancy.

"Dedication to our environment is evident all around the Corps and in our partnerships with allies like The Nature Conservancy," stated Col. Steven R. Miles, Portland District commander, who accepted the pair of framed photographs of the Willamette River for the District. 



(Left to right) Willamette Program Manager Mindy Simmons, Hydraulics and Hydrology Branch Chief Bob Buchholz, Programs Branch Chief Doug Clark, Deputy District Engineer for Project Management Kevin Brice, District Commander Col. Steven R. Miles, Willamette Valley Project Reservoir Regulator Mary Karen Scullion, Willamette Valley Project Lead Fisheries Biologist Greg Taylor, and Corps Partnership Liaison Chris Budai. Photo courtesy of The Nature Conservancy.

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Commander: Col. Steven R. Miles, P.E.
Chief, Public Affairs: Matt Rabe
Editor: Scott Clemans





Two gates, two days, one heat wave: Team effort keeps river flowing

By Amy Echols, Public Affairs Office

Late on July 24, night shift operator Ron Almeida noticed lower than normal water levels below Big Cliff Dam on the North Santiam River. Almeida first tried to remotely adjust the water flow at Big Cliff from the control room at Detroit Dam, four miles upstream.

When remote adjustment yielded no improvement, Almeida drove to Big Cliff to inspect the dam's spillway gates. While attempting to operate the gates manually, Almeida heard wire ropes snap and Gate No. 1 dropped onto the spillway sill. Almeida then manually opened Gates 2 and 3 to release the required amount of water and keep the river from going dry.

Almeida again noticed low water levels below Big Cliff Dam as a heat wave moved into the Willamette Valley on the evening of July 25. He unsuccessfully tried to adjust Gate No. 2 remotely. Upon arrival at the dam, he found Gate No. 2 closed and quickly opened Gate No. 3 further.

"Typically we operate Big Cliff as a re-regulating dam to even out downstream flows from the Detroit powerhouse," explained Roger Kline, operations superintendent for the Willamette Valley Project. "Without a re-regulating dam to control flows, we would not be able to increase power production at the peak load, or demand, times. Fluctuations in flow through Detroit would cause large, sudden changes in river volume. This is harmful to fish and to people recreating on or near the river."



Big Cliff Reservoir remains low following the failure of two gates in July. Detroit Dam is visible upstream. Corps of Engineers photo.

Ron Wridge, chief of Portland District's Mechanical Design Section, completed an investigation of the gate failures on July 26. He determined that the cause of both was the connection between each gate and its twelve hoisting wire ropes. This immediately raised concerns that Gate No. 3 could fail at any time.

Failures present difficult options

The Corps now faced the possibility of drying up the North Santiam River. Big Cliff's one hydropower-generating unit was already out of service for maintenance and there was a distinct



Where the connecting rods held fast, the stainless steel ropes frayed and broke. Photo by Matt Rabe, Public Affairs Office.

possibility of losing Gate No. 3 as the remaining route to pass water.

“For several days we faced some real risks,” explained Kline. “With the failure of Gate No. 3, we could either dry up the North Santiam River below Big Cliff Dam or we would be forced to release water over the top of Big Cliff’s spillway gates. Neither action was acceptable.”

The Corps notified the emergency management offices of surrounding counties, as well as the governor’s office, and issued a news release to the Willamette Valley news media about river lower flows and potential impacts to downstream water users.

The North Santiam remained well below normal seasonal levels. Opening Gate No. 3 wider posed too much risk, and downstream municipal water suppliers drew extra water from the river to fill their reserve storage in case the river went dry. The sweltering summer heat quickly heated up the remaining water, posing a threat to endangered juvenile and adult salmon and steelhead.

Stabilizing a tough situation

The Corps lowered the pool behind the dam almost to the spillway crest to allow a more detailed inspection of the failed gate connections. Portland District’s Reservoir Regulation unit also directed the release of colder water through the Detroit powerhouse to cool the river temperatures.

Engineers, operations and project managers, and fisheries biologists participated in each flow management discussion to minimize the impact on endangered fish populations.

Meanwhile, Corps and state fisheries biologists spread out along the North Santiam to watch for juvenile fish stranded in pools or ponds along the river. The Oregon Department of Fish and Wildlife moved adult salmon from their Minto Ponds Fish Facility to their fish hatchery on the McKenzie River, where water temperatures remained cool.

Collaborating on a fix

The design team worked for several long days and nights to draft an interim plan to lift one of the closed 85-ton gates. On July 28, representatives from Knight Construction of Deer Park, Wash., met Corps engineers at the dam to review the plan.


“We determined that the only viable option for lifting Gate No. 1 was to use the existing hoisting machinery,” stated Wridge. “This required welding new temporary wire rope connections to the gate above the water level and installing new wire ropes.” At the same time, reservoir regulators developed a tightly synchronized plan for managing water releases from Detroit Dam while Gate No. 1 was opened and Gate No. 3 closed for inspection.

On Aug. 4, eleven days after the initial gate failure, operators successfully closed Gate No. 3 while simultaneously lifting and securing Gate No. 1 in place, providing a reliable route for water. The precision of the flow management plan ensured an uninterrupted flow of water during the switch.



Carbon steel ropes in newly welded connectors on Gate No. 1 await tensioning before lifting the 85-ton gate. Photo by Ron Wridge, Mechanical Design Section.

Wridge’s team inspected Gate 3 and determined that it can serve as a dependable route to pass water this fall while the installation of new permanent connections and wire ropes on Gates No. 1 and 2 move forward.

“The District’s response to the risk of drying up a river posed by the nearly simultaneous gate failures at Big Cliff was remarkable,” stated Dustin Bengtson, Willamette Valley Project operations manager. “All hands at many levels pitched in to coordinate and skillfully execute a temporary solution to a potential disaster.” They kept the North Santiam River flowing. 






Willamette Falls Locks repair continues

Story and photos by Diana Fredlund, Public Affairs Office

The Willamette Falls Locks is undergoing a Hydraulic Steel and Structure inspection, an extensive assessment designed to ensure the structural integrity of the locks. Since May, Triad Mechanical, Inc., the Corps contractor, has been inspecting and repairing each of the lock's seven chambers.

The most recent section, Gate No. 1, was re-installed Nov. 2 using a crane on a barge from inside the lock. After moving the gate nearly into place, a remotely operated vehicle was deployed to help guide the gate onto the pintle bearing. Workers then secured the gate with large bolts.

The contractor expects to complete the inspection by January 2010. 

PROJECT UPDATE



HSS inspection and



Willamette Falls Locks, 1899

PROJECT UPDATE





The Dalles navigation lock gets emergency repairs

By Diana Fredlund, Public Affairs Office

River users were surprised when the gates of The Dalles navigation lock closed Sept. 29 and didn't re-open. Ron Twiner, operations manager for The Dalles Lock and Dam, had ordered the lock closed amid concerns about its ability to operate safely.

The downstream gate at The Dalles had concerned Corps engineers for a while; they had been replacing bolts on the pintle bearings that support the gate and welding recurring cracks in the lower section of the gate for three years. They installed stress sensors in 2007 so the navigation lock staff could watch more closely for signs of further trouble.

On the morning of Sept. 29, lock operators noticed that the gates were not closing properly. A check of the monitoring strain gage showed a significant change in the readings, which meant stresses had changed – but how, and where?

Twiner reviewed the situation with lock masters and project engineers, then closed the lock and requested that a remotely operated vehicle inspect the gate below the water line.

"The ROV showed us some new cracking that was more extensive than we'd seen in past weeks," Twiner said. "After seeing that and verifying its findings with a team of divers, we felt we needed to de-water the lock and look closely at the situation."

After consulting with a team of project managers, engineers, contracting personnel and support staff, Portland District Commander Col. Steven R. Miles directed Twiner to de-water the lock and determine the extent of the problem.

The District awarded an inspection and repair contract and workers began arriving at The Dalles within 24 hours, ready to stage equipment as soon as the floor of the navigation lock was dry.



A diver prepares to enter the navigation lock to confirm cracks found during an earlier inspection by a remotely operated vehicle. Corps of Engineers photo.



The Corps and its contractor begin inspecting the downstream miter gate at The Dalles navigation lock. Pumps continue to remove water from in front of the downstream gate so workers can repair cracks and stabilize the gate. Corps of Engineers photo.

“The team was in place and began inspecting and setting up scaffolding even as we were pumping the last of the water from the lock,” said Pat Duyck, District project manager for the emergency repairs.

As the inspection began, Corps leaders discussed with industry stakeholders the emergency closure and how the District was working to get the lock back in operation.

“We have been partnering with our stakeholders for years, keeping them informed about our critical infrastructure concerns,” said Kevin Brice, deputy District engineer for project management. “They understood the critical nature of the gates and, although this situation was extremely difficult, understood the need for this unexpected closure.”

The inspection provided Corps engineers with an up-close view of the structure, revealing extensive cracking near the pintle bearing and along the quoin, a section of gate that transfers load from the gate to the lock wall.

“Existing cracks had re-opened and we found new cracks also had formed,” Duyck said. “The conditions we found during our hands-on inspection proved we were right to close the lock for repairs.”

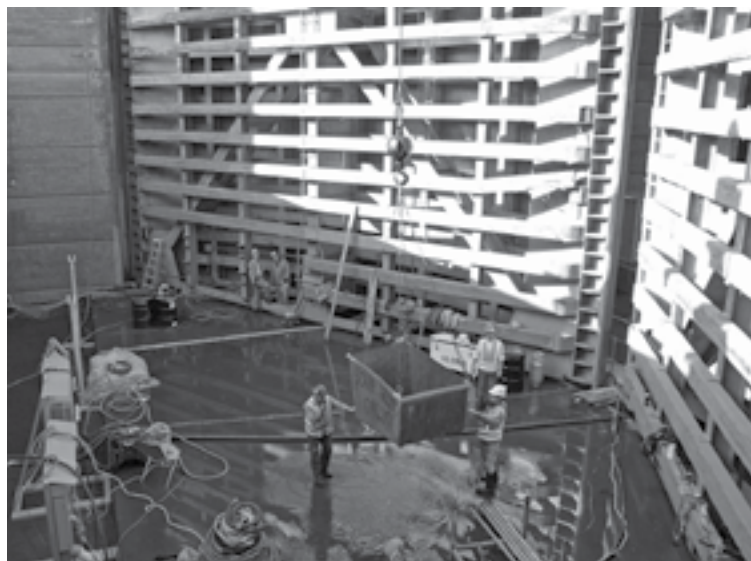
The contractor, Advanced American Construction, was no stranger to marine emergencies. Their experience in fast, accurate and safe repair work helped the Corps select the company for this repair contract.

“Advanced American has worked in and around the Columbia River lock system for many years, which means we know what to expect,” said Mike Johns, Advanced American Construction’s vice president of operations. “This type of operation is our specialty.”

Within two days, the lock was de-watered and repairs were underway. Corps engineers and the contractor worked together on a combination of welding and bolting steel plates to stiffen the lower section of the gate.



The contractor set up a base of operations on the lock floor after the structure was de-watered. The work is focused on the right side of the downstream gate near the wall. Corps of Engineers photo.



The Corps and its contractor begin inspecting the downstream miter gate at The Dalles navigation lock. This view is outside the downstream gates looking into the navigation lock. Corps of Engineers photo.

Continued on page 10



DISTRICT RESPONSE



The Dalles Lock and Dam mechanical engineer Frank Salber was one of many employees working around the clock to return the navigation lock to operational status. Corps of Engineers photo.

“Because some cracks had traveled across critical support members, the steel plates were needed to help reduce stress and ensure the load path was maintained,” Duyck said.

The contractor worked around the clock, with workers rotating through two shifts for nearly two weeks. Corps engineers and construction staff were on hand for all shifts, ensuring fast decision-making once problems were identified.

During that 13-day period, shippers were waiting to transport their goods upstream or downstream of The Dalles. While some companies were able to shift a portion of their load to rail or truck transportation, most had to wait for the lock to re-open.

According to John Pigott, assistant to the president of Tidewater Barge Lines, the company had five tugs and about 20 barges stranded east of The Dalles and had to temporarily lay off more than half its work force of 280 people.

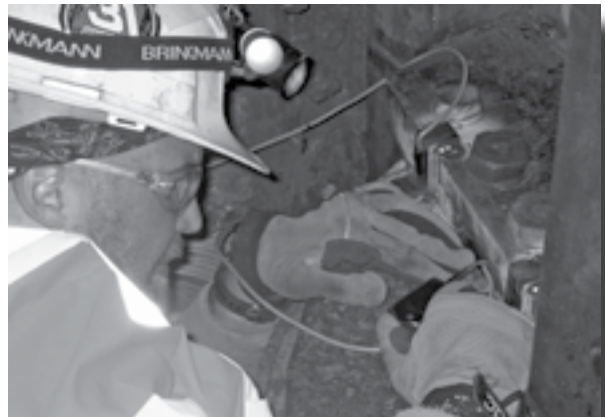
“The emergency closure caused many problems for our company, our customers and our employees,” Pigott said. “We appreciated the Corps’ maximum effort in response to this outage and the level of communications with industry. The Corps made sure we knew the situation and updated us frequently. In the end, thanks to the commitment and hard work of all who worked on this project, we feel we got a good interim repair.”

At 3 p.m. on Oct. 12, the downstream gates at The Dalles opened to let the first tug push its barges into the lock. As it happened, that first tug was the same one Twiner had closed the gates on 13 days earlier.

“It wasn’t planned that way,” Twiner admitted. “But it was a nice touch.”

The repairs allowed the lock to re-open, but they are not a long-term solution to the problem facing the downstream gates, Brice said. “The engineers believe we will be able to operate the navigation locks safely and effectively until the scheduled maintenance period planned for March 2010.”

The problem will be resolved during an extended 16-week lock outage scheduled to begin in December 2010, Duyck said. “We are trying to determine if it is more feasible to overhaul the downstream miter gates, or to replace them. Either decision should solve the problems we have been facing for the past several years.”



A Corps employee from the Engineer Research and Development Center solders a new monitoring gauge connection. The new gauges will help the District monitor the downstream gate performance. Corps of Engineers photo.

That’s good news to stakeholders like Pigott, even though there are other concerns with aging navigation locks.

“The Columbia River is critical to the vitality of our regional economy, and companies like Tidewater rely on the navigation lock system,” he said. “We need to make sure our waterway infrastructure is being maintained so we can rely on it for years to come.”

John Day maintenance chief wins national engineer award

By Barbara Sorenson, Winds of Change magazine and Bernard Tate, USACE Public Affairs Office

Each year, the American Indian Science and Engineering Society honors members of the society with high-level awards. Kimberley Oldham received the 2009 Professional of the Year Award Oct. 31 during the annual AISES conference in Portland, Ore.

Oldham is the maintenance manager and assistant operations project manager at John Day and Willow Creek dams on the Columbia River.

"This award is a great honor," said Oldham, an enrolled member of the Muscogee Nation. "To be submitted for this award by [the Corps] was honor enough, but to be selected by AISES is truly a highlight in my career. This award is another opportunity for me to participate and support our partnership with Native people."

Oldham was nominated for her professional skill and for her work with Native Americans.

"She is the highest-ranking Native American employee in the Corps of Engineers," wrote Georgeanne Reynolds, senior tribal liaison of USACE, in her nomination letter. "I am certain she will be our first Native American Senior Executive Service appointee."

"Ms. Oldham has always been an advocate for Native Americans," Reynolds continued. "Earlier in her career, she was the tribal liaison for Kansas City District. Her negotiation skills and sense of fairness won her the respect of the tribes and the district."

Oldham's own words reflect the two sides of her professional work.

"I see several areas of emphasis evolving," Oldham said. "I see more emphasis to protect the environment. The environment was always inherent in the Corps' mission, but in recent years became a focus as USACE established Environmental Operating Principals throughout the agency. Examples at our dam range from




Dr. Dorothy Pender (left), chair of the AISES Board of Directors, and Pamela Silas (right), AISES executive director, present Oldham with the AISES 2009 Professional of the Year Award. Photo courtesy of AISES.

large-scale construction projects for better fish passage to replacing old bushings with greaseless bushings."

Oldham also has advice for those who follow in her footsteps.

"I have a couple of thoughts for our Native American youth," she said. "One is to find good mentors. You walk in two worlds. In your professional world, you must learn to be more assertive and vocal. These are key factors in learning more about your profession. Mentors can impart technical, operational, and organizational knowledge and experiences."

"But don't think you need only one mentor," Oldham added. "You will have many mentors in your life. They each have gifts to pass on to you, which someday you pass on to others. None of us ever achieve anything by ourselves."

"The other thought I have to offer is balance," Oldham said. "Balance is a recurring theme in all our lives. It is important to figure out what that balance is for you. How do you balance the needs of your family, exercise, sleep, friends, work, the environment, our cultures, and so on? Identify what is important to you." 



EMPLOYEE AWARD



John Day mechanic “fixes” award-winning prime rib

By Scott Clemans, Public Affairs Office

When Deric Anthony saw a Traeger barbecue grill on display at the Wasco County Fair, he made a beeline for the booth it was in, assuming there was some sort of drawing he could enter to win it.

Although it turned out that there was no drawing, the journeyman mechanic at John Day Lock and Dam did end up winning that grill and another to boot – plus a pair of blue ribbons for the best tri-tip in the county and prime rib in the state.

Anthony learned that the grill was the first prize in a barbecue contest. Although he has no background or training in the culinary arts, his wife, Heather, thought the tri-tip he prepares at home from time to time was a contender and encouraged him to enter.

Much to his surprise, Anthony won the competition, along with the grill, a blue ribbon and a trip to the Oregon State Fair to compete at the state level.

“I was totally shocked that I won it,” Anthony said.

That shock was relatively mild compared to the one he received when he promptly won again in Salem, earning himself another grill and blue ribbon.

Anthony came to the Corps 10 years ago as a stay-in-school Information Technology specialist. He transitioned into the Power Plant Trainee Program after three years and is now a journeyman mechanic, responsible for maintaining John Day’s turbines, powerhouse and other facilities.



(Back row, left to right) John Day mechanic Deric Anthony, his wife Heather, sister Sarah, and (front row, left to right) daughter Sydney, son Isaac and daughter Kaylee pose with Anthony’s first-place awards for the Oregon State Fair’s Backyard Grilling Contest.

“Every day there’s something new,” Antony said of his job.

Outside of work, Anthony and his family enjoy spending time on the river in their boat, mountain bike riding and snowboarding. And, of course, barbecue, although neither of those Traeger grills will be in use at the Anthony residence.

“I ended up selling both of them to coworkers,” Anthony said. “We already have a perfectly good Weber grill at home.”

And the state’s best tri-tip recipe to cook on it, too, which Anthony attributes to fellow mechanic Eddie Schlaht’s “soon-to-be world famous” ingredients. 🍖